

Chapter B1: Background

INTRODUCTION

This chapter presents an overview of the Phase II facilities in the California study region and summarizes their key operating, economic, technical, and compliance characteristics. For further discussion of operating and economic characteristics of Phase II facilities, refer to Chapter A3 of the *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule*; for further discussion of the technical and compliance characteristics of Phase II facilities, refer to the *Technical Development Document for the Final Section 316(b) Phase II Existing Facilities Rule* (U.S. EPA, 2004a,b).

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B1-1 OVERVIEW

The California Regional Study includes 20 facilities that are in scope for the final Phase II regulation. Of these 20 facilities, 8 are located in Northern California and 12 are located in Southern California. Eight of the 20 facilities withdraw cooling water from an estuary or tidal river while 12 withdraw water from the Pacific Ocean. Figure B1-1 presents a map of the 20 in-scope Phase II facilities located in the California Regional Study area.

Figure B1-1: In-Scope Phase II Facilities in the California Regional Study

Source: U.S. EPA analysis for this report.

B1-2 OPERATING AND ECONOMIC CHARACTERISTICS

Most of the 20 California Regional Study facilities (16) are oil/gas facilities; two are nuclear facilities; one is a combined-cycle facility; and one uses another type of steam-electric prime mover. In 2001, these 20 facilities accounted for 21 gigawatts of generating capacity, 93,000 gigawatt hours of generation, and \$6.1 billion in revenues.

The operating and economic characteristics of the California Regional Study facilities are summarized in Table B1-1. Section B1-4 provides further information on each facility [including facility subregion, North American Electric Reliability Council (NERC) region, plant type, capacity, 2001 generation, and whether impingement and entrainment estimates were developed for the facility].

Table B1-1: Operating and Economic Characteristics of Phase II Facilities								
Waterbody Type	Number of Facilities by Plant Type ^a					Total Capacity (MW) ^b	Total Generation (MWh) ^b	Electric Revenue (millions)
	Combined Cycle	Nuclear	Oil/Gas Steam	Other Steam	Total			
Northern California								
Estuary/Tidal River	-	-	6	-	6	6,294	27,936,568	\$1,089
Ocean	-	1	1	-	2	2,403	18,755,346	\$1,408
Subtotal	-	1	7	-	8	8,697	46,691,914	\$2,497
Southern California								
Estuary/Tidal River	-	-	2	-	2	1,736	6,004,221	\$256
Ocean	1	1	7	1	10	10,518	39,981,138	\$3,299
Subtotal	1	1	9	1	12	12,254	45,985,359	\$3,555
TOTAL	1	2	16	1	20	20,951	92,677,273	\$6,052

^a Based on largest steam-electric capacity at facilities.

^b MW is an abbreviation for megawatt; MWh is an abbreviation for megawatt hour.

Sources: Plant type (IPM Analysis, U.S. EPA, 2002; Form EIA-860, U.S. DOE, 2001a); capacity (Form EIA-860, U.S. DOE, 2001a); generation (Form EIA-906, U.S. DOE, 2001c); revenue (Form EIA-861, U.S. DOE, 2001b; Form EIA-906, U.S. DOE, 2001c).

B1-3 TECHNICAL AND COMPLIANCE CHARACTERISTICS

Nineteen of the 20 California Regional Study facilities employ a once-through cooling system and one facility employs a combination system in the baseline. The 19 facilities with once-through cooling systems incur a combined pre-tax compliance cost of \$30.7 million. Table B1-2 summarizes the flow, compliance responses, and compliance costs for these 20 facilities.

Table B1-2: Technical and Compliance Characteristics of Phase II Facilities			
	Cooling Water System (CWS) Type ^a		
	Once-Through	Combination	All
Design Flow (MGD)	17,136	691	17,827
Number of Facilities by Compliance Response			
Fish H&R	5	1	6
Fine Mesh Traveling Screens w/Fish H&R	2	-	2
Passive Fine Mesh Screens	4	-	4
Fish Barrier Net/Gunderboom	3	-	3
Velocity Cap	1	-	1
None	4	-	4
Total	19	1	20
Compliance Cost (2002\$, millions)	\$30.7	w^b	w^b

^a Combination CWSs are costed as if they were once-through CWSs.

^b Data withheld because of confidentiality reasons.

Source: U.S. EPA analysis for this report.

B1-4 PHASE II FACILITIES IN THE CALIFORNIA REGIONAL STUDY

Table B1-3 presents economic and operating characteristics of the California Regional Study facilities.

Table B1-3: Phase II Facilities in the California Regional Study							
EIA Code	Plant Name	Plant Subregion	NERC Region	Steam Plant Type	2001 Capacity (MW)	2001 Net Generation (MWh)	I&E Data?
Northern California							
Estuary/Tidal River							
228	Contra Costa	CN	WSCC	O/G Steam	690	3,295,794	Y
247	Hunters Point	CN	WSCC	O/G Steam	427	436,130	Y
259	Morro Bay	CN	WSCC	O/G Steam	1,056	4,197,701	Y
260	Moss Landing	CN	WSCC	O/G Steam	1,624	8,349,240	Y
271	Pittsburg	CN	WSCC	O/G Steam	2,080	10,388,204	Y
273	Potrero	CN	WSCC	O/G Steam	417	1,269,499	Y
Ocean							
246	Humboldt Bay	CN	WSCC	O/G Steam	102	677,633	Y
6099	Diablo Canyon	CN	WSCC	Nuclear	2,300	18,077,713	Y
Southern California							
Estuary/Tidal River							
302	Encina	CS	WSCC	O/G Steam	1,007	4,043,079	Y
310	South Bay	CS	WSCC	O/G Steam	729	1,961,142	N
Ocean							
330	El Segundo	CS	WSCC	O/G Steam	996	2,909,876	Y
335	Huntington Beach	CS	WSCC	O/G Steam	563	1,305,859	Y
341	Long Beach	CS	WSCC	Other Steam	587	866,159	N
345	Mandalay	CS	WSCC	O/G Steam	574	2,066,920	Y
350	Ormond Beach	CS	WSCC	O/G Steam	1,500	6,008,123	Y
356	Redondo Beach	CS	WSCC	O/G Steam	1,321	5,631,001	Y
360	San Onofre	CS	WSCC	Nuclear	2,254	15,141,807	Y
399	Harbor	CS	WSCC	Combined Cycle	293	889,857	Y
400	Haynes	CS	WSCC	O/G Steam	1,606	3,315,253	Y
404	Scattergood	CS	WSCC	O/G Steam	823	1,846,283	Y

Source: U.S. EPA analysis for this report.